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The Portland Spectrum serves the student body by facilitating thought–provoking discussions. We are dedicated to upholding a diverse forum of debate; we seek to establish voices for those in the student community who are otherwise unheard, and create an alternative avenue to publish new angles in current political or PSU community-related conversations, for the purpose of testing institutions already in place and expanding the minds of our campus.
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Obama's College Proposal
Faces Uphill Funding Battle

By Charles**MacLeod**

Citing the recent implementation and successes of free community college programs in both Tennessee and Chicago, areas with opposing party leadership, President Obama – in a late January speech – unveiled plans to help all Americans receive higher education. During his speech, the President detailed a system that would make some form of college "as free and universal in America as high school is today."

Echoing the sentiments of the founding fathers, Obama introduced his plan by saying, "There are no free rides in America," and later, that this plan would be available "to responsible students who are willing to work for it." The proposal, which requires that recipients be enrolled at least half-time at a qualifying college while maintaining a GPA of no less than 2.5, would cover seventy-five percent of the average cost of attending a community college. While programs in Tennessee and Chicago may only be available to recent high school graduates, Obama – who stressed the importance of education at any age – detailed that his plan would be open to non-traditional students as well.

This federal aid doesn't come without stipulations, however. Under the plan's guidelines, applicants must enroll in a community college whose credits are transferable towards a four-year university degree or two-year associate's degree. For those not attending a traditional college, the proposal would help cover the costs of working toward a certificate or degree at an applicable technical school. Students would be eligible for benefits if their family income or adjusted gross income (AGI) stands at less than $200,000 per year. This fiscal limit has garnered hushed criticism from those who feel a financial cap negates the universality of the plan. Though his proposal focused mainly on incoming students, the President explained that the proposal included measures to help lessen the burden of student loans held by those currently enrolled in universities and community colleges.

In his address, President Obama asserted that in addition to an education system less impaired by racial and economic barriers, the proposal would provide the United States with a more well-equipped workforce, ready for the competitive global marketplace. This announcement, coming on the heels of Obama's State of the Union Address in which he described hope for universal preschool as well, seems to point to an increased focus on education as a top priority for the President during his final years in office.

Obama's plan, which was outlined to cost roughly $60 billion dollars over the next ten years, is largely believed will be funded by higher taxes on the wealthy and large companies. This strategy may face a challenge in the Republican-held Houses of Congress where funding measures will be up for debate. The plan has also drawn criticism from those who feel as though Obama's proposal doesn't tackle the real problems facing higher education today, namely the rising joblessness rates of recent graduates.

The proposal has been touted as a modern-day equivalent of the 1944 G.I. Bill, though more inclusive and forward thinking. While funding of the program is bitterly contested, few are blind to the problems affecting American higher education, and even fewer contest providing affordable or free education to the public. Regardless of where its fate may fall, the proposal offers a glimmer of hope for anyone, young or old, seeking the benefits of a university degree.

HOLESS
AN AUGMENTED FUTURE

By Jeremy**King**

Growing up in the 90s, I was enamored with technology; it was, at the time, something akin to magic. I spent countless hours recording myself telling stories on my cassette player because I couldn't believe that I could capture --and preserve-- my voice so easily. I'd pop in a video game cartridge and lose myself in what seemed to be sprawling landscapes of imagination, and it amazed me that it all came from that little chunk of plastic that I just crammed into the game console. And even before my household had the internet, I was similarly mystified whenever I booted up the computer, the ethereal jingle of the Microsoft Windows 95 startup sound filling my young mind with the promise of endless fascination and possibility.

Years passed, and slowly that sense of wonderment faded. With the advent and accessibility of the internet and other prominent technological leaps forward, our culture, in what seemed to be the blink of an eye, was dominated by new and exciting technology. What seemed unthinkable merely a few years prior became commonplace, and every step forward seemed to become more expected than anticipated. As technology was further and further cemented into our collective cultural consciousness, that same sense of amazement I felt all those years ago was replaced by thoughts of practical application and utilization. Once in a blue moon, some new-fangled technology would come along and rekindle that spark, for a time, only to quickly fade back into the realm of normalcy.

Then, on January 21, 2015, Microsoft unveiled Windows Holographic and its corresponding hunk of hardware – the HoloLens.

Announced at the "Windows 10: The Next Chapter" press event, Windows Holographic is best described as a new computing platform in which advanced augmented reality technology has been heavily incorporated. The platform will be included alongside the upcoming Windows 10 OS upon its tentative release later this year.

While it's worth noting that the technology is augmented reality and not holographic projection, as it's being marketed, the fundamental interface of the technology and its application remains thoroughly impressive. Just don't go into it expecting the Holodeck from Star Trek: The Next Generation. We're not there just yet.

The HoloLens is, for all intents and purposes, a self-contained Windows 10 computing system built into a head-mounted smart glasses unit that features a high definition 3D display, spatial sound, and highly advanced sensors. The unit also boasts head tracking and video and sound capture in addition to both an advanced CPU, GPU, and a specialized processor known as an HPU, or Holographic Processing Unit. The HoloLens will be operated through an intuitive interface that takes cues from the user's voice, hand motions, and even line of sight.

On paper, it sounds pretty impressive. But at Microsoft's press event on January 21, we were given a glimpse of just how impressive the technology is in real time.

A short video trailer showcasing the technology early on in the press conference prior to its demonstration struck me as far too good to be true; the video depicted such scenes as a man walking into his kitchen, donning the HoloLens, and bringing up a wide array of virtual applications – and even what appeared to be a fully functioning and scalable display akin to an HDTV – that materialized in the 'real world' with a simple hand motion. The augmented projections were incredibly clean and crisp, blending naturally with the physical space that surrounded him. The trailer, cutting to a woman sitting at her desk, working on a design for a motorcycle, shows a rotating, fully three-dimensional projection of the same motorcycle at her side.

Photograph By Microsoft Sweden via Flickr

It was like watching a movie set in a not-too distant future with technology that seemed somehow impossibly distant. I was doubtful. Yet the live demonstration that followed minutes later put my doubts largely to rest. The cinematic production of the trailer may have beefed up the aesthetic presentation of the technology in comparison to its real-world use, but it became almost immediately clear with the first projection that what I'd witnessed in the trailer was closer to reality than I could have hoped for. A fully realized 3D rendering of a human being, semi-transparent but largely solid in appearance from every angle, rotated around a small pedestal, complimenting Windows 10 for rendering him as a "freakin' hologram". The next projection showcased a tiled app interface not unlike the app store included in Windows 8; the interface, projected cleanly on the wall, was scrolled through cleanly by the user's very own gaze. Merely looking at the app she wished to select, she then brought a finger up over the highlighted tile and pressed down in mid-air as if clicking the right mouse button.

Next, we see the same woman designing a Quadcopter in an app called HoloStudio, touted as allowing the user to create virtually anything he or she can think of utilizing the HoloLens. And to top it off, after showcasing the finished design, presenter Alex Kipman, engineer of the Microsoft Kinect – the technology that essentially spearheaded Microsoft's research into augmented reality as a viable technological platform – brought out a fully realized physical replication of the very same design printed from a 3D printer.

Frankly, the possibility inherent in Windows Holographic is something that almost seems detached from reality as I know it. What we've seen of the HoloLens alone at this point is enough to completely change not only how we interact with technology, but the very structure of both our entire home entertainment experience and, potentially, corporate and creative workflow. Certainly, there will be a period of transition as the technology is fleshed out, fine-tuned, and made accessible to the general public, but to deny the impact of this announcement would be to discredit a great stride forward.

Similar efforts have largely met with failure or have demonstrated significantly less ambition, scope, and feasibility. Microsoft has been sitting on this for a while, and they chose now to come out the gates roaring with their proposed vision of the future. And in doing so, they brought the magic and wonderment of technology back to the forefront of imagination.

Suddenly, I feel like a kid again – and I can't wait to see what the future holds.

ANTIBODIES IN CANCER RESEARCH

By Corinne**Hutfilz**

A healthy cell becomes cancerous when it has lost its ability to regulate the rate at which it divides, but escapes its own mechanisms for detecting malignancy. The number of possible causes for cancer is incalculable, but once the regular division pathway is interrupted, this opens up a greater potential suite of mutations, such as unregulated cell size, inability to undergo self-programmed death (apoptosis), and inability to alert the immune response. A cell may lose any of these functions, among others, but only when the cell begins proliferating uncontrollably does the disease spread.

Cancer is often able to escape the response of the immune system, though its methods are inconsistent and obscure. Several theories exist on the subject, such as the cancer's elimination of T cells (white blood cells normally responsible for cancer detection and destruction), the lack of distress signals, or ignorance by the immune response due to similarity to healthy blood/bone/tissue.

Because cancer varies vastly from individual to individual, one's treatment for a type of cancer may not work as well as another receiving the same treatment for the same type of cancer. This is partially because cancer is brought about by acquired genetic mutation that can occur in unpredictable places in the genome. The wealth of potential mutations is diverse, as well, and this is in addition to the variability in the kind of cell that becomes cancerous, i.e. in the blood, bone, skin, brain, etc. For the purpose of this article, only one mechanism of natural cancer suppression will be explained.

During the normal replicative cycle, mitosis, the cell divides through the cyclical expression of different cyclins, small proteins that bind to cyclin-dependent kinases (CDKs). CDKs act as the stoplights for the different checkpoints of the cell cycle, and the cell can only progress when cyclin binds to and activates the CDKs, in effect giving the cell a green light to keep going. The concentration of CDKs stays the same through the cell cycle, but at each checkpoint, a new kind of cyclin is produced. If all is well and the cell has successfully completed the necessary steps to advancing to the next stage, the cyclins appropriate for starting the next phase will be produced, and when bound to the respective CDK, the cell can synthesize the next round of proteins required for advancing.

P21 is a protein that can bind to CDK2 to prevent its activation by cyclin A or E. When CDK2 cannot activate, it cannot signal to the cell to continue dividing. This is a cancer suppressing effect because it acts as a regulatory mechanism against cell proliferation. For p21 to be produced, another protein, p53 must first bind to DNA to promote the transcription of p21. P53 binds to DNA as a result of other pathways evolved to sense and respond to rapid, unwarranted cell division. Mouse double minute 2 (MDM2; humans have the homologous enzyme HDM2) is the principle antagonist for p53, its function to tag p53 for immediate degradation. Consequently, many studies, including one of the two highlighted in this article, have concerned the relationship between the two proteins.

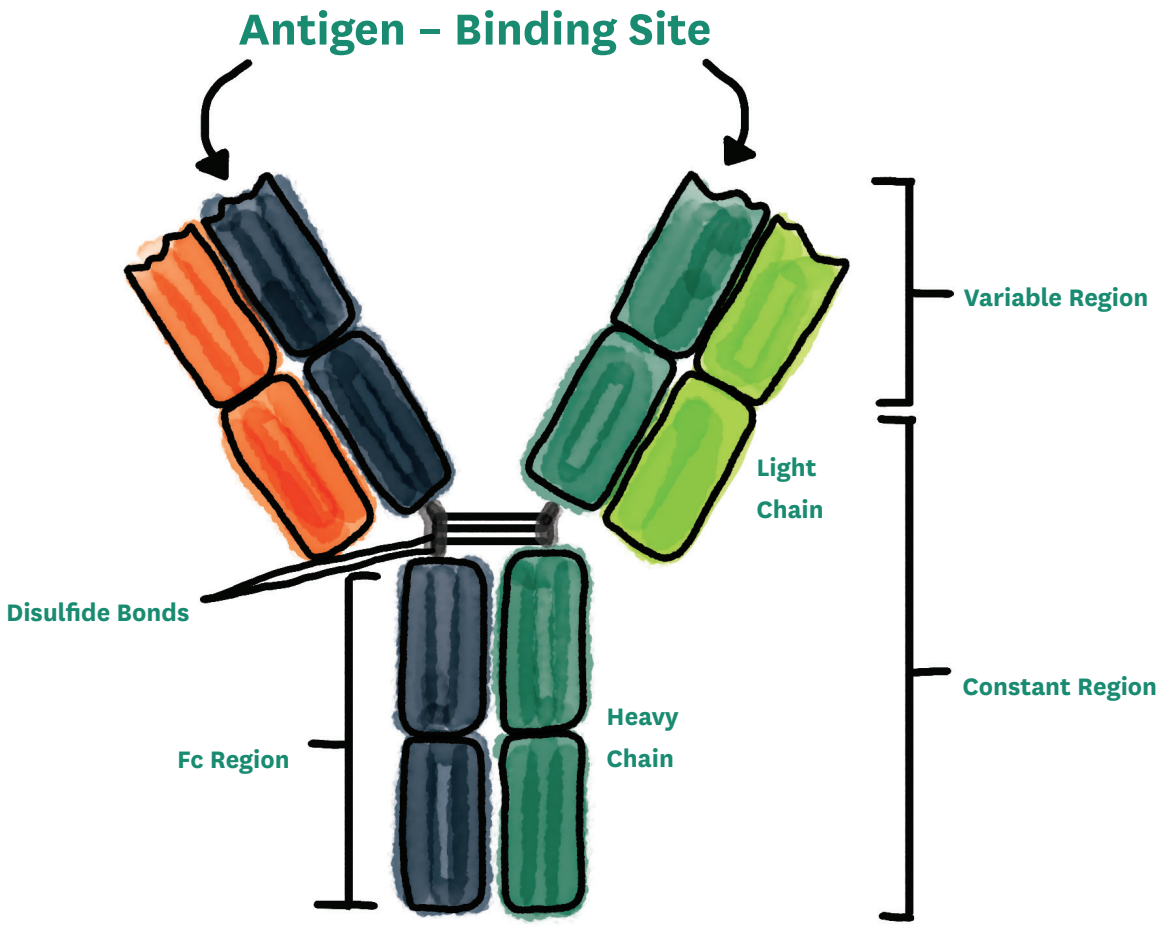
Antibodies

Antibodies are small proteins of the immune system. Each antibody contains two binding domains (paratopes) that each bind to a specific antibody receptor (epitope) that is presented on foreign cells, infected cells, or other particles such as virions. The epitope is the antibody-binding portion of the antigen, the larger structure containing the epitope presented on an immunogenic substance. Because of this, antibodies can be thought of as molecular "flags," signaling to phagocytic cells that the target attached should be destroyed. Antibodies are extremely diverse in paratope composition, allowing them to recognize many different and new antigens that might enter the body. Once an antigen-antibody pair has been matched and bound, the antigen-presenting particle can be destroyed in a number of ways.

Conceptually, antibody recognition is an excellent method for precision targeting of malignant cells because of the high degree of specificity between a given paratope and its respective epitope match. Naturally, however, the duty of cancer cell destruction falls within the abilities of cytotoxic T cells, or more familiarly, "killer" T cells. A healthy cell can usually recognize when it's been infected or otherwise internally corrupted, and in response will mark itself for death by presenting peptide fragments on its outer membrane, held there by major histocompatibility complex (MHC) molecules. Cytotoxic T cells recognize these fragments and MHC molecules, bind to them, and secrete cytotoxins directed at the target cell, causing the target to undergo apoptosis, a mode of cell death safe for other cells in the vicinity.

While most antibodies recognize antigens and remain extracellular, the antibody 3E10 has been identified with the ability to penetrate and localize into the nucleus of a cell bearing the appropriate antigen. Weisbart et al. have combined a fragment of this antibody with a fragment of another antibody, 3G5. 3G5 is capable of binding to MDM2, in effect precluding MDM2's inactivation of p53. Most creation of protein begins in a cell's nucleus, so when 3E10 delivers 3G5 to the nucleus, 3G5 is able to bind to MDM2 quickly after its synthesis.

Additionally, fragmented antibodies have been long studied in combination with T cells, resulting in what is termed a chimeric antigen receptor-expressing T (CAR-T) cell. Generally, a CAR-T cell can be thought to follow this mechanism: the attached fragmented antibodies are presented on the outside of the T cell, and recognize antigens presented by cancerous cells, as opposed to recognizing a cancer cell's presented (or lacking by mutation) MHC mol-



ecules. The T cell binds and replicates rapidly, then showers the cancerous cell with cytotoxins as per usual. The incredible variety of antibodies available allows for detection of many different antigens that could be presented on a cancerous cell, despite the potential for the cell's non-production or mis-production of some types.

3E10-3G5 Bispecific Antibodies

The 3E10-3G5 antibody was first tested on incubating melanoma cells, and the treated cells acted in a dose-responsive manner, where the greater the dosage of antibody, the more significant delay in melanoma cell growth. Melanoma cells treated with the 3E10 antibody or the 3G5 antibody behaved like untreated melanoma cells. The combination antibody was also tested on mice injected with melanoma cells. The tumor sizes of those that contracted the cancer were either monitored as the control group, or given treatment with 3E10-3G5 and monitored. Speaking with Cheri Cloninger, the biologist who lead the study on the oncotherapeutic effects of 3E10-3G5, she remarked that while on average the rate of tumor growth was greatly slowed in comparison to tumors left untreated, certain mice's tumors were actually measured to shrink over time. 3E10-3G5 treatment was also shown to increase tumor p53 and MDM2 levels, consistent with results obtained by others experimenting with MDM2 inhibitors. Cloninger noted that the increase in MDM2 is likely a response to the increased levels of p53.

CAR-T Cells

Several factors go into selecting components of a CAR-T cell. The details of the presented antibody fragment type(s) should be considered: how far the fragment ought to hang off the T cell, the body's frequency of different sorts of antigens, the degree of off-target effects, etc. The T cells that CARs are to be grafted onto must be selected, too, for their abilities to traffic to tumor sites, the length of their survival, and their toxicity. Two highly favorable antibodies have thus far emerged, GD2- and HER2-specific monoclonal antibodies.

Unlike the natural receptors of T cells, CARs can recognize structures other than protein epitopes, such as carbohydrates and glycolipids. This increases the pool of potential

target antigens, meaning that there are more ways for a CAR-T cell to recognize cancer. Ideally CAR-T cells should target antigens that are only expressed on cancer cells or their surrounding stroma, not those present on healthy cells.. Sadly, there are few human-produced antigens of this kind. There is a tendency, though, for target antigens to overexpress on malignant cells. By targeting multiple antigens on a single CAR-T cell instead of one, a CAR-T cell has greater chance of matching a cancerous antigen. CAR-T cells of this kind would also then recognize the unique antigen pattern given to them that is only present on tumor cells. Even though, the problem of targeting non-antigen-presenting cancer cells persists. One solution is to target antigens expressed on the tumor stroma. The stroma is required for tumor growth, and is therefore less apt to genetic instability; it is more reliably expressive of antigens.

Conclusion

The scope of cancer research extends far from the developments outlined here; creative developments in cancer detection, prevention, treatment and recovery continue to be advanced and the survival potential continues to rise. The use of safe, intranuclear treatment delivery by antibody has even greater potential in medicine beyond the ambiguous realm of cancer, and from Dotti et al., "CAR-T cells are making the transition from merely 'promising' to being 'effective treatments for hematological malignancies." The future of cancer research is turning new leaves each day, taking advantage of the body's natural immune functions- but in new combinations. ■

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PSU Health Insurance BY THE NUMB3R$

By David**Sherman**

After completing the research for Portland Spectrum's first report on student health insurance last December we had an opportunity to interview Nick Walden Poublon, a student health advisor, and Angela Abel, a marketing and communications coordinator at the Center for Student Health and Counseling (SHAC). They helped us understand the process involved in selecting university health insurance, and the reasons for the increase in the cost per term.

Each year, a broker takes bids for multiple health insurance plans from five or six companies. While PSU was with United-Healthcare several years ago, they've been with Aetna for at least the last five years. Aetna was chosen for its low quote (it was the lowest of those submitted) and large provider network, which allows out of state and international students to return home during the summers and still get medical coverage. Poublon pointed out that Aetna has also been willing to make changes to the plan that allowed students to use SHAC services without having to pay anything toward the plan deductible. This however is of little consequence as students are given access to SHAC services through the $119 student health fee. PSU has been with Aetna ever since the mandatory program was put in place. Was it a PSU decision to make the coverage mandatory, or was it enforced by Aetna in order to give us the lowest rate? Unfortunately, the bids are private, so only students who've been appointed to the Student Health Advisory Board will be able to see the real comparative coverage and costs offered between companies.

> *With the current trends showing that more and more students are not interested in the expensive Aetna plan, it seems we should be doing more to help students find the insurance that will give them the individual coverage they need.*

In the past the Affordable Care Act (ACA) guidelines required that university health insurance programs be equivalent to Platinum level CoverOregon plans. However, this year that requirement was dropped down to gold level. Despite the reduction in coverage requirements, the PSU health insurance costs still went up by $100. Poublon explained that this was because of four primary changes. First, the ACA changed their requirements such that all plans had to go to unlimited coverage when it used to cap out at $500,000. Health insurance companies can also no longer deny coverage based on pre-existing conditions. Taxes that were supposed to be paid by insurance companies have been pushed down to being paid by the insured. Finally, PSU has had significantly higher student usage rates of expensive procedures than Aetna expected. Three of these four things are pushed down by the ACA so there is little that can be done to counter the increase in costs. When asked if SHAC has metrics for what aspects of the plan were being used more than expected, Poublon stated that the metrics existed, did but those numbers could not be released for privacy reasons.

If a student finds that these costs are too high, and they are are a student under the age of 24 and dependent on

student loans, then SHAC will work with them to get onto the Oregon Health Plan (OHP) or another plan that meets their needs on CoverOregon. The opt-out requirements are a $2500 deductible or less and hospitalization coverage of 80%. While the Aetna plan has a deductible of only $300 and 80% hospitalization coverage, it is significantly more expensive than comparable silver level CoverOregon plans with many of the same support options. The CoverOregon plans would give students the ability to decide if they wanted to pay for services that PSU's Aetna plan currently charges for, such as the $2500 in elective abortion coverage, $75,000 in transgender reassignment surgery and benefits, or even acupuncture coverage. When asked about these areas of coverage Poublon admitted that he did not know the insurance covered $2500 in elective abortions. He also stated that the students on the student health advisory board voted to include these items. It is important to note, however, that the students on the student health advisory board are not elected by the student body. They are appointed, and therein lies potential for misrepresentation of the opinions of the whole student body, and a possible conflict of interests from those who appoint these students.

Here at PSU we have the waiver to get out of the compulsory insurance. Other four year colleges including the University of Oregon and Oregon State University also have university sponsored health insurance through Aetna, but theirs is not compulsory. According to Poublon, the reason ours is different goes back to the Aetna $90 dollar plan from 2010 and its associated, more expensive, supplemental plan. While we traditionally had significantly more uninsured students than the other four year colleges, we've also had very few students on the supplemental plan. In its last year (2010-11) the supplemental plan had enrolled less than 72 students, numbers so low that Poublon says health insurance companies were unwilling to bid on our contract. The ever-decreasing number of students on the supplemental plan every year was causing the rates for that plan to go up 30% annually without increasing the level of coverage. By its last year the cost of the supplemental plan for a student under the age of 25 was $614 per term. One would think our rates today would be significantly lower what with so many students forced into the compulsory health insurance. How many students are currently enrolled? Poublon and Abel gave us a rundown of the numbers since the first compulsory program:

2012-13: 15,082 enrollments and 14,945 waived
2013-14: 12,766 enrollments and 17,004 waived
2014 Fall Only: 7,900 enrollments and 15,043 waived

With 7,900 students enrolled in the Aetna health insurance, considering that the old program had to be paid four times a year and the current one doesn't require summer payment, the current rate is $694 per term (not counting the required $119 student health fee). Hypothetically, the difference from 72 students to 7,900 has saved those 72 students on the 2010 supplemental plan about $374 each per year and would cost the other 28,000 students $1722 each per year. Or, in total, the mandatory health insurance saved those 72 students $26,928 per year and cost 28,000 students a total of $48,216,000 per year.

With the current trends showing that more and more students are not interested in the expensive Aetna plan, it seems we should be doing more to help students find the insurance that will give them the individual coverage they need. Abel explained that SHAC does run workshops to advertise CoverOregon and provides educational materials to help familiarize students with the process of looking up providers. Despite all this, it seems that some students have trouble finding what they are looking for. Poublon explained that it is not uncommon for students who move to the Oregon Health Plan (OHP) to end up coming back to Aetna because they do not get the coverage they want or cannot find a provider on the OHP website. While he will help students find providers for Aetna, he admitted to not knowing how to find providers for OHP.

Poublon stated that the idea behind the mandatory coverage was for students to be able to complete their degrees. "We don't want students to get three years into their degrees and take out the loans then not be able to finish their degrees because something happens." And yet this current program's cost, as shown in our December issue, will cause loan dependent students under 24 years of age to run out of money three years into their education after hitting the federal loan cap, leaving them a year to to go, $31,000 in student loan debt, and the well all dried up. ■

Portland State ATHLETICS

Recognizing the Facts

By Mike**Bivins**

A recent PSU.tv segment featured a press conference with Portland State University President Wim Wiewel. Portland Spectrum asked why athletics receives such a large allotment of funds – $13,260,243 allotted for 2014-2015, to be exact – "while the majority of student interests lie in academics." Wiewel responded that universities having athletic programs "is the American way." Wiewel then brings up the Portland State football team and mentions that it "isn't doing nearly as well" as he would like. Wiewel could have mentioned the women's volleyball team, and that it captured the Big Sky conference postseason championship in 2008 and 2010, as well as winning the regular season championship, or a piece of it, in 2007, 2009, 2010, 2012 and 2013. But Wiewel chose to mention football. Wiewel likely mentioned the football program because college football is the second most popular sport in America, after professional football, according to Time magazine. Wiewel likely knows that Americans love their football, and that the strength of many college athletics programs are judged solely on the production of its football team. This would seem to be the case at Portland State.

> **"The chunk of money that students might be most interested in is the $3,483,300 allotted to athletics for 2014-2015 by way of the Student Fee Committee."**

Football aside, Portland State is not without high caliber athletic teams. During a sit-down with Portland State's Communications Director Scott Gallagher, Gallagher is quick to point out how strong the women's teams are. The golf, soccer and especially volleyball teams have been very competitive in recent years. Women's golf took home the Big Sky team championship in 2008, 2010, 2011 and 2014, while soccer won at least a share of the Big Sky regular season championship in 2009, 2011, 2012 and 2013. Even Women's softball got a piece of the Big Sky regular season championship while also winning the postseason championship in 2013.

For all of their success, women's volleyball coach Michael Seeman doesn't feel like his team gets a lot of recognition. But Seeman places the blame largely on the popularity, or lack thereof, of volleyball. Seeman points out that after the Ducks made it to the finals of the NCAA women's volleyball tournament in 2012, The Oregonian ran "a blip about it on the second page", and says that the main problem is a lack of awareness among the student body that athletics has "very successful programs."

Portland State Communications Director Scott Gallagher is quick to point out that while the main draw of college athletics — football — hasn't been able to turn the corner, the women's program is flourishing. But beyond providing women an opportunity to compete at a very high level as well as win championships, opportunities that did not exist pre-Title IX, Gallagher also emphasizes that athletics, by way of athletic scholarships, provides "access" to Portland State for athletes who might not otherwise be able to attend. Athletes such as Jonathan Gonzales – place kicker for the Portland State football team. Gonzales, while leading the Big Sky Conference in field goals made in 2014, is also doing good work in the classroom. A junior with a 3.5 in health studies, Gonzales said, "If it was not for an athletic scholarship I would most likely have stayed in-state and went to a UC or CSU or possibly look for another athletic scholarship at a different school." Yet for all of the success the Viking women are having, as well as the potential to help draw out of state student athletes such as Gonzales, several students interviewed seemed to share a similar feeling of apathy towards athletics.

A student who wished to remain anonymous indicated that she is "not a fan" of Portland State athletics and that maybe if the football team were doing better, then maybe herself, as well as the student body, would be more behind Portland State athletics. When floated the question of how she would feel if athletics were to disappear, she indicated that she wouldn't really care.

Senior 'tori Christensen has a "lack of interest in sports in general", but asserts that it would not be fair to eliminate athletics and that "it would be a shame to push [athletes] away."

Another senior who did not wish to be identified acknowledged that she is a fan and that she "tries to watch as much as [she] can." However, she acknowledges it is more of a social thing, and that if she were not friends with athletes she would probably not be into the athletic scene at Portland State. Again, she echoes the others in asserting that eliminating athletics would be unfair.

Even if unfair, it would free up millions from the schools budget. The chunk of money that students might be most interested in is the $3,483,300 allotted to athletics for 2014-2015 by way of the Student Fee Committee. The Student Fee Committee decides how nearly $15,000,000 dollars are spent. From things like athletics, to the Women's Resource Center, as well as student media, the money allotted to athletics represents a sizeable chunk of money to potentially redistributed to other activities.

Towards the end of the PSU.tv clip Wiewel mentions that he is not aware of any poll that was put to the student body to gauge how the students feel about athletics. The Associated Students of Portland State University (ASPSU) polled the student body in November regarding an armed campus police force, so a poll of the student body might help to provide some clarity to the matter. ASPSU president Eric Noll says that while a poll is possible, ASPSU does not have any plans to poll the student body at this time. However, even if ASPSU did conduct a poll it is not clear if the results would provide much clarity. This is because only 5.6% of the 21,344 students emailed responded to the November survey. It does seem like there is a large feeling of apathy towards sports, and that many would not miss, or even notice, if athletics were put on the chopping block. However, with millions on the line it might be worth investigating the matter further. ■

OREGON VS

On November 4 of last year, Oregon passed Measure 91 by a supporting majority of 56%, effectively legalizing and regulating the wholesale and retail sale of recreational marijuana. The implementation of the measure was assigned to the Oregon Liquor Control Commission (OLCC) under section 7 of the legislation. The day following the passage of the measure, Steven Marks, the Executive Director of the OLCC, issued a statement declaring it the OLCC's objective to implement the measure with a focus of preventing the sale of marijuana to minors and supporting law enforcement. "Although we have learned much already, we will continue to look to our Washington and Colorado neighbors for best practices and opportunities for improvement," Marks added.

Measure 91 goes into effect on July 1, 2015, at which point an individual of legal age (21) can possess up to eight ounces of marijuana and can grow in their home up to four plants. The measure requires the OLCC to begin accepting license applications no later than January 4, 2016. It's hard to argue that there haven't been struggles in the implementation of legalized and regulated recreational marijuana sales—particularly in Washington, where crop shortages and high costs have produced a general lack of consumer interest.

> ***"The goal of this implementation is to create a regulatory system that works for Oregon, not just for one part of Oregon but for the whole state"***
>
> *– Karynn Fish*

Most notably, Oregon's legislation differs drastically from Washington when it comes down to the application of tax on marijuana. According to Measure 91, there are four types of marijuana ventures allowed and regulated: "marijuana producers," who cultivate the marijuana for wholesale, "marijuana processors," who produce marijuana extracts and products, "marijuana wholesalers," who may purchase marijuana and marijuana products to sell to retailers, and "marijuana retailers," who sell marijuana and related items to individuals of legal age.

Measure 91 calls for a flat tax rate applied only at the wholesale level when producers sell their plants to the wholesalers. The wholesalers then distribute it to the various retailers throughout the state. The measure also asserts that the right to tax marijuana sales is the exclusive right of the state. According to section 33 of the measure, the tax rate is $35 per ounce on marijuana flowers, $10 per ounce on marijuana leaves and $5 per plant for the sale of immature marijuana plants. However, the measure also gives the OLCC the right to adjust the tax rate for inflation.

This is decidedly different from Washington's Initiative 502 that requires a tax rate of 25% to be taken at every level: processor, wholesale and retail. Since Washington taxes on a percentage rather than a flat rate, the more high-grade the strain of marijuana, the more taxes are paid. Coupled with multiple levels of taxation, it is recreational users who end up paying the price.

Perhaps this is why Washington's projected taxation income of $1.9 billion over five years has fallen short of expectations. According to state data, as of January 15 31,000 pounds of marijuana have been harvested but only one fifth of it has been successfully sold by marijuana dispensaries. Instead of flocking to recreation shops, most users have opted to continue buying in illegal markets where prices are much lower.

For those Oregonians who look forward to buying in legalized and regulated recreational shops, the difference may mean lower prices and happier wallets. However, it's uncertain if this will necessarily be the outcome. Since the restriction of licenses by the OLCC was left relatively unaddressed by Measure 91, it is unclear what system the OLCC will use to distribute licenses. The language of the measure doesn't set a fixed number of licenses to be given out as Washington's initiative did (334 for the entire state), but the measure does provide the OLCC every right to deny licenses. Under Measure 91, the OLCC can refuse a license if there are reasonable grounds to believe a locality has a sufficient number already issued or if there is not enough demand by public interest. The OLCC can also deny an application for a license for a number of other reasons including lack of moral character, lacking sufficient financial resources, relevant past convictions or for using marijuana, alcohol or drugs "to excess."

WASHINGTON pot

By Jordan**Paige**

Should Oregon limit the number of licenses distributed as Washington did, a resulting lack of competition in retail might have negative implications for recreational buyers. Despite a policy of one-time taxation by the state, a lack of competition could result in prices just as high as those seen in Washington—the consequence of which could be a continued dependency on marijuana's black market.

Karynn Fish, the Public Affairs Specialist for recreational marijuana at the OLCC, confirmed that there is no current projection for the number of licenses the OLCC plans to distribute. Fish added, however, that the OLCC is extremely concerned with keeping the prices of the regulated market competitive with that of the unregulated market. "I think that Oregon is very lucky in being the third state to set up a regulated market. We are learning a lot from both Colorado and Washington. There is sensitivity to the issue of prices. One of the real goals of the agency's implementation is to move the recreational cannabis market into the legal regulated market and price is certainly one of the considerations for that," Fish said.

Fish continued to explain that the OLCC has already learned much from Colorado and Washington, both triumphs and mistakes. Another one of the OLCC's concerns is preventing the kind of crop shortages that has plagued the Washington market and played a large part in driving buyers back to illegal markets. "In terms of supply, we'll begin accepting applications in January of 2016, but the first licenses will likely go to the growers and then they will be rolled out from there. Staging that rollout of licenses is just one way of addressing supply and preventing shortages that Washington has seen though," Fish said.

Measure 91 allows local governments to pass legislation regarding time, place and manner regulations regarding recreational shops. Yet a ban on the sale of marijuana in the locality entirely can be achieved by ballot in a general state election only. The uncertainty regarding the number of licenses that will be distributed and the option of local governments to further restrict sale may be cause for alarm to those looking forward to buying from recreational shops.

Beginning in January 2015, the OLCC endeavored on a "Listening Tour." The tour is marked as the OLCC's commitment to making the implementation of Measure 91 as transparent as possible and involves the OLCC traveling to various towns to hear public comments and concerns regarding implementation. Even though Multnomah County alone constituted nearly 25% of the total supporting vote which passed the measure according to election data published by the state, the tour bypasses Multnomah County entirely. The Listening Tour instead dedicates itself largely to hearing the opinions of those in areas such as Umatilla and Polk County, who voted overwhelmingly against the measure—counties that will, presumably, exercise their right to restrict (or even ban by general election) the sale of marijuana.

Fish wanted to reassure Oregonians that Multnomah County would be included in the tour, though she offered no explanation as to why it wasn't included to begin with. She said that those in Multnomah County could look forward to an announcement of a new tour stop in the county in the beginning of March. "The goal of this implementation is to create a regulatory system that works for Oregon, not just for one part of Oregon but for the whole state," Fish said.

4-Year Guarantee Apparently Absolves PSU of Responsibility

By Mike**Bivins**

While traversing the campus of Portland State University (PSU) or riding the Portland Streetcar, you might have seen a big green number four. This green four is part of the campaign to market Portland State's new program intended to help you, if you are an incoming freshman, graduate in four years, as well as to "save you thousands in college costs," according to a video PSU uploaded to YouTube promoting the program. Since this past fall incoming freshman at Portland State University had the option of signing up for PSU's four year degree guarantee program. The program's frequently-asked-questions list states, "If you meet all the requirements of the agreement and still can't graduate on time due to course availability, PSU will not charge you any tuition for the rest of the classes you need." This could be a boon for some, because as reported by Oregonlive in November 2014 the fees and tuition rates for attending PSU have increased by 64 percent since 2004. Unfortunately those who have already begun their academic careers at PSU are not allowed to join the program.

Fortunately for those who do sign up there are no additional costs, aside from Portland State's regular undergraduate tuition and fees, for a student to enter the program, though there are several requirements one must meet in order to remain enrolled: for one, a student must obtain 45 credits per year to remain eligible for the program. While twelve credits is considered full-time for financial aid purposes, a subscriber to the 4-year degree plan will average fifteen credits a term, or take summer classes to augment their Fall-Spring credit load to meet the annual 45 credit requirement.

While it is well known that attending community college classes to transfer credit to university is a way to save money, PSU students opting for the four year program are not able to co-enroll with community colleges while enrolled in the program. I asked PSU Provost and Vice President for Academic Affairs Sona Andrews about this and she said that, "[W]e have plans to look at what a guarantee would look like for transfer students and co-enrolled students," and that the university "did not want to delay roll out of the program for full time freshman while [PSU] work[s] through these more complicated issues."

> **"The 4-year guarantee is designed to improve the 4-year graduation rate by making sure PSU is not the reason for it taking longer."**
>
> *– Sona Andrews*

When asked about how the program will factor into relatively low 4-year graduation rates Andrews stated that, "The 4-year guarantee is designed to improve the 4-year graduation rate by making sure PSU is not the reason for it taking longer. We do recognize that some of our students will continue to take longer than 4 years because of the financial, family and work obligations they have. What the 4-year guarantee does is take PSU out of the equation for being the reason a student DOES NOT (emphasis original) graduate in 4 years."

While PSU does acknowledge that it will still have students who will take longer than four years to graduate, one potential pitfall of the program is that it only addresses tuition and fees, and does not account for room and board as well as other costs, such as transportation, associated with living in a city. "[W]e recognize that a student might have other costs," says Andrews, "It would be very difficult for PSU to calculate and cover all these costs-costs that would vary based on living choices." Portland State estimates room and board costs for students attending PSU for the Fall-Spring at $11,349. For the independent student this means that adhering to PSU's four year guarantee requirements, they will be on the hook for summer room and board costs, as well as the cost of room and board during any extra terms needed. This could potentially be a large obstacle for those wishing to minimize costs while attending PSU- the original intent of the program.

One drawback of the program that was originally reported by KATU is that PSU will be cancelling some electives. However, according to Andrews "this has not happened to date and is not a big issue."

PSU's most recent 4-year graduation rate stands at 15.5%. The university is likely also looking to utilize the program as a way to boost this number. However, with only 85 out of 1,644 new freshman in fall 2014 signing up for the program, it does not appear to have caught on yet. Of those 85 students, 72 remained in the program for the winter term. While the program appears to have a lackluster start, only time will tell if it is successful at saving students thousands, as well as helping them graduate on time.

ONE MORE BRIDGE TO CROSS

A Point of View

By Eugene**Messer**

Eugene Messer is a longtime Vancouver resident who has been writing for over 40 years. He was a campaign manager/speech writer for Robert Kennedy, Hubert Humphrey, and George McGovern, among others.

Outside the snow falls without a sound. I sit in my library at my desk, and through the window watch the snow fill up the lawn and garden. The snow creates special sculptures of the hedges, trees and fence posts, swirling, twirling, dancing in the street light, becoming blue and glittering in the moonlight.

On my desk in an open book I look at the picture of a Roman warrior standing, holding off overwhelming odds of enemy soldiers. Horatius Cocles holding off the invading army in the war between Clusium and Rome (509 BC) at a line drawn up by the River Tiber. With the fall of the main leaders of the Romans the army, panicked, threw down their arms and ran for the bridge. Horatius and two other officers stood shoulder to shoulder, allowing only the Romans to cross the bridge. Once the two had been rendered unable to fight they began an organized retreat, calling to Horatius to follow them. Refusing, he stood to face the enemy and continue fighting on. The story told throughout history is usually entitled "Horatio At The Bridge". When all the Romans were safely across, the bridge was torn up and Horatius leapt into the river and swam to the Romans' side with missiles falling all around and wounding him. But he survived and was honored for the deed.

I began to contemplate how bridges have played such important parts so often in the history of man. From the beginning when primitive man crossed a fallen log over a stream and realized he himself could fall logs for this purpose and place rocks on one another to ford the stream as well, the long history of bridges was born.

Recently the Edmund Pettus Bridge across the Alabama River at Selma received its annual publicity during Black History Month (February) when the story is retold of the crossing attempt and final success of Civil Rights leaders and demonstrators to march to Montgomery, the Alabama capital, to demand voting rights. Beaten back by local police on foot and horses they were able to cross at last when President Johnson sent in troops to guard the marchers. It is believed by many that without this historic march there never would have been a President Obama.

One of the most beautiful and lasting is the Roman-built bridge and aqueduct Pont du Gard. Built of stone without

mortar, it crosses the Gardon River in the south of France. I first saw this wonderful structure when I was in my teens. In ancient times it carried traffic and water to the historic Roman city of Nimes. Its original length of 1,180 ft. and height of 160 ft. makes it one of the Roman world's major and imposing structures. Though it no longer carries water, for many centuries it was a major highway bridge in the area.

Throughout years marked by many wars bridges have been major structures. One is reminded of the bridge at the Berezina River and the terrible crossing made by Napoleon's retreating army upon leaving Moscow, the city which was burned by the Russians themselves and thus unable to bivouac the army. For perspective, the army was the largest known up to that time (being some 500,000 soldiers and staff). The bridges were makeshift structures thrown up for Napoleon's Grand Army. When the majority of soldiers had crossed, Napoleon ordered the destruction of the bridges to prevent the Russians from crossing to attack the army's flanks. Some 10,000 stragglers were left stranded on the enemy side of the river. The total loss of over 400,000 members of the grand army was the opening salvo of what would lead to the eventual Battle of Waterloo and Napoleon's defeat.

> ***"I began to contemplate how bridges have played such important parts so often in the history of man."***

During the Battle of Remagen, the Allied invasion, after capturing the Rhine from the Germans, demanded from their leader Adolf Hitler, to bomb the bridge. On that day over 200 pounds of explosives failed to completely detonate, and the bridge was left intact. Our troops upon reaching the Rhine were amazed to see the bridge still standing- even more giving them crossing. In failing to destroy the Ludendorff Bridge over the Rhine River to stop the Allied Invasion of Germany, the bridge's holding went down in history and film as being instrumental in shortening World War II in Europe.

Bridges have certainly served humanity in difficult times, of the more notable being the great Golden Gate Bridge in San Francisco. This bridge, known as one of the wonders of the modern world, fought the ferries to exist as well. The time when it became feasible to build this structure was also the time of the Great Depression of the 1930's. It gave pride to a suffering nation and work to hungry men. Opening in 1937 the bridge, at 1.7 miles long, carries vehicles from San Francisco to Marin County across the San Francisco Bay's particularly rough waters. The Frommers Travel Guide considers the Golden Gate Bridge "possibly the most beautiful, certainly the most photographed, bridge in the world!"

In Oregon on the Willamette River of Portland, as often happened, the families who owned ferries to cross rivers lobbied against the building of bridges at all. At last in the later part of the 19th century bridges began to be built. The Hawthorne Bridge, the oldest vertical-lift bridge in North America, was followed by the present steel Bridge in 1912. A double decker railroad and highway bridge replaced the previous bridge, which was a double deck swinging span bridge built in 1888. In 1917 a bridge was built to replace the Columbia River ferries. This bridge, still operating, once carried all the trucking freight and passenger service of I-5 between Mexico and Canada as it crossed between Oregon and Washington, until the I-205 Bridge was constructed in the 1970's.

In 1883 a very famous bridge, named a historic civil engineering landmark in 1972, crossed the East River from Brooklyn to Manhattan in New York City. This famous bridge, also fought by the owners of ferries, became the butt of a famous scam (considered a joke to all those who hadn't been scammed), in that many arriving immigrants would be fleeced of their funds by being sold bogus papers containing the right to collect tolls from crossing pedestrians and vehicles on the bridge. From here came the American idiom when addressing a gullible person, "I've got this bridge to sell you."

Literature has also enjoyed the tales of bridges. Thornton Wilder's second novel, The Bridge of San Luis Rey. He tells the story of a fictional ancient Incan rope bridge which one day falls into the canyon below, carrying several people to their deaths. The novel tells the victims' interrelated stories. Better known even, to many of us, is the story The Bridge on the River Kwai, based upon a terrible, brutal time in World War II when the Japanese were building a railway to transport war materials and other vitals through the jungle. They used prison labor, military and civilian, to carry out the work with the loss of a great number of lives. There actually were bridges built and track laid but those who were victims of the effort said that the film and literature did not accurately convey how terrible the whole work really was.

We see that bridges far and wide across the centuries and the world have witnessed a great many of the efforts and highlights of the progress of mankind since ancient man first needed to cross that stream. Outside my window the snow has increased. I put on my coat and step out into the glittering azure tinted world.

The moon shines brightly on the new fallen snow, a slight wind builds drifts.

Making moon bridges one can walk upon.